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REPORT RESUMES

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FIRE SERVICE TRAINING, LEARNER'S WORKBOOK, BASIC COURSE.
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DESCRIPTORS- *STUDY GUIDES, *TRADE AND INDUSTRIAL EDUCATION, *FIRE FIGHTERS, ADULT VOCATIONAL EDUCATION,

STUDENTS MAY USE THIS STUDY GUIDE IN A 34-HOUR FIRE SERVICE TRAINING EXTENSION PROGRAM TO IMPROVE THEIR COMPETENCIES AND SKILLS IN THE SPECIALIZED FIELD OF FIRE SERVICE. IT WAS DEVELOPED BY A STATEWIDE COMMITTEE OF FIRE FIGHTING CONSULTANTS AND ADVISORY GROUPS. THE 26 ASSIGNMENT SHEETS, KEYED TO THE CHAPTERS IN THE FIRE SERVICE TRAINING INSTRUCTIONAL MATERIALS MANUAL (VT 000 721), ARE DESIGNED TO ASSIST THE STUDENT IN MASTERING BOTH THE TECHNICAL AND PRACTICAL KNOWLEDGE OF THE INSTRUCTIONAL MATERIALS AND THE INSTRUCTOR'S PRESENTATIONS. SOME OF THE ASSIGNMENT SHEETS ARE (1) COMMUNITY FIRE SERVICE, (2) WATER AS USED IN FIRE FIGHTING, (3) FIRE PUMPS, (4) LADDERS, (5) RESCUE, (6) POST-MORTEM CONFERENCE, (7) INSPECTIONS, AND (8) RADIATION HAZARDS. THE MATERIAL IS TO BE USED BY INDIVIDUAL STUDENTS UNDER TEACHER DIRECTION. THE TEACHER MUST BE A QUALIFIED FIREMAN, AND THE STUDENTS SHOULD BE VOLUNTEER OR EMPLOYED FULL-TIME FIREMEN. ANSWERS TO THE ASSIGNMENT SHEETS ARE GIVEN IN THE INSTRUCTOR'S MANUAL (VT 000 722). THIS DOCUMENT IS AVAILABLE FOR 75 CENTS FROM OHIO TRADE AND INDUSTRIAL EDUCATION SERVICE, INSTRUCTIONAL MATERIALS LABORATORY, THE OHIO STATE UNIVERSITY, 1885 NEIL AVENUE, COLUMBUS, OHIO 43210. (HC)

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FIRE SERVICE TRAINING

LEARNER'S WORKBOOK — BASIC COURSE

OHIO TRADE AND INDUSTRIAL EDUCATION SERVICE

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FIRE SERVICE TRAINING

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LEARNER'S WORKBOOK - BASIC COURSE

OHIO TRADE AND INDUSTRIAL EDUCATION SERVICE

DIVISION OF VOCATIONAL EDUCATION
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COLUMBUS, OHIO

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MEMORANDUM

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DATE: November 6, 1967

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Foreword

The training of fire fighters and other personnel to deal effectively with fires has long been recognized as being of extreme importance. The Trade and Industrial Education Service, Division of Vocational Education, State Department of Education, has provided training to volunteer and paid fire fighters in local communities since 1939. The training received by local fire fighters has certainly been an important factor in increasing their operating efficiency and no doubt has saved countless lives and thousands of dollars in property losses since the program was instituted.

A comprehensive training program in all areas of fire fighting is currently in effect. The following types of training are now being conducted:

- Basic Training
- Advanced Training
- Officer Leadership Training
    - Human Relations
    - Conference Leadership
    - Effective Speaking
    - Instructor Training
- Industrial Brigade Training
- Emergency and Rescue Training
- Radiation Hazards Training
- Special Training
    - Regional Fire Schools
    - State Fire School
    - Fire Prevention
    - Arson Detection
    - Public Service Employees

A significant contribution towards an effective training program is made through adequate and up-to-date instructional materials, to enable the fire fighter to become aquainted with the skills of fire fighting and the trade technology necessary to perform these skills. Recognizing this problem, the Ohio Vocational Trade and Industrial Education Service presents this revised Fire Service Training, Learner's Workbook - Basic Course. This Learner's Workbook is to be used by the fire fighters in conjunction with the revised Fire Service Training manual (textbook).

It is hoped that this basic course will meet the most essential needs of firemen and prepare them for further training in the advanced and other specialized courses and training available through the Trade and Industrial Education Service.

Byrl R. Shoemaker, Supervisor
Trade and Industrial Education Service

Acknowledgment

The Fire Service Training manual (textbook) contains the acknowledgment to the Trade and Industrial Education staff personnel, the State Advisory Committee, educational institutions, fire associations, organizations, and manufacturers who made a contribution to the content of the manual upon which this Learner's Workbook is based.

Acknowledgment for the content of this Learner's Workbook - Basic Course is extended to the present staff of Fire Service Training Coordinators of the Ohio Trade and Industrial Education Service. They are as follows: Robert P. Fry, The Ohio State University; Charles J. Getz, Kent State University; Harry A. Ohlrich, University of Cincinnati; and Elmer W. Weis, The Ohio State University.

Acknowledgment is extended to William M. Berndt, Consultant, Instructional Materials Laboratory, for directing the development, editing, and composition of this Learner's Workbook. Special mention is extended to the personnel on the staff of the Instructional Materials Laboratory for their efforts in preparing the composition copy.

Byrl R. Shoemaker, Supervisor
Trade and Industrial Education Service

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To the Instructor

This Learner's Workbook - Basic Course has been prepared as one of the instructional materials for use by you as an aid in teaching the thirty-four hour Fire Service Training, Basic Course more effectively. The twenty-six assignments contained herein are correlated with the Fire Service Training manual (textbook) and the Fire Service Training, Instructor's Manual - Basic Course. Each individual assignment sheet covers a chapter of the textbook and also correlates with the corresponding Teaching Guide in the Instructor's Manual. This correlation makes it possible to "tailor make" the course to fit each fire department's equipment, training and fire protection needs. The course content can be adjusted when making arrangements for the course by adapting the course outline for the thirty-four hour Basic Course. After the exact content has been determined the corresponding teaching guides in the Instructor's Manual - Basic Course should be used for presenting the instruction in an interesting and instructional manner.

The Learner's Workbook is a study guide which will serve as an effective instructional aid for group instruction and also as a study guide and a self-check on the mastery of the subject matter for the individual learner.

The effective utilization of the assignment sheets in this Learner's Workbook will be dependent upon several variable factors: the total amount of time for the entire course; the length of each class session; the size of the class; and the instructor's particular preference for making effective use of the assignment sheets.

- The instructor should decide how the assignment sheets are to be used. Some recommended methods are as follows:
  - Learners work out assignment sheets before coming to class and before the formal lesson is presented, or
  - Learners work out assignment sheets in class, or
  - Learners work out assignment sheets after class.
- Assignment sheets should be handed in to the instructor for corrections. They should be returned to the learners at the next class session and any points not fully understood should be reviewed and discussed.

In situations where there are several individuals or only a few firemen in a department studying the course, the old "country school house" technique of instruction can be used. This is, naturally, the most difficult type of instruction and in such cases one of the experienced firemen may act as teacher and assist the new man or men individually with each assignment.

To the Learner

This Learner's Workbook - Basic Course contains twenty-six assignment sheets, each one covering a chapter in the Fire Service Training manual (textbook). They are designed to assist you in the mastery of both the technical and practical knowledge of the content in the textbook and from the instructor's class presentations. Each assignment sheet has been written to provide you with a study guide of the most important and essential information in the thirty-four hour basic course. In fact, each assignment sheet may be considered as a small "digestible" part of the learning which can be readily comprehended whether under an organized group method of instruction or in the self-study method.

HOW TO STUDY

Proper study techniques must be followed in order to achieve the maximum learning from any course. It is suggested, therefore, that the following procedures be practiced when completing each assignment:

- Read the entire assignment sheet. Get clearly in mind the objectives of the assignment and the information needed to answer the questions.
- The assigned reading in the textbook should be thoroughly studied, including the illustrated drawings, photographs and charts.
- Answer as many of the assignment questions as you can without the use of the textbook. Write legibly, keeping your work neat. Take sufficient time and do not hurry.
- Refer back to the text if you cannot answer all of the questions.
- Do not copy answers directly from the text, but write them in your own words.
- Any points not fully understood should be reviewed again or brought up for discussion at the next class session.

Your success or failure in the mastery of this material greatly depends upon your ability to study; therefore, the above procedures should be followed and practiced to the best of your ability.

Fire Service Training

Assignment Sheet No. 1 Name ______________________ Date ______ Grade ______

COMMUNITY FIRE DEFENSE

OBJECTIVES:

1. To become familiar with modern concepts and responsibilities in the safeguarding of life and property.
2. To learn the various ramifications of Grading Schedules.
3. To become familiar with personnel qualifications, public relations, and a record system necessary in the operation of a well-organized fire department.
4. To learn the necessity for mutual aid and disaster planning.

ASSIGNMENT:

Fire Service Training, pp. 1-20

QUESTIONS:

Directions - Answer the following in brief, concise statements or words as indicated by the question.

1. List four factors involved in community fire defense.

2. What is a Grading Schedule?

3. List six qualifications to be used in selecting fire department personnal.

4. List six factors which should be incorporated within a fire department operation to obtain good public relations and contacts with the public.

5. What is the primary function or objective of mutual aid?

6. List the agencies who should be involved in emergency disaster planning.

7. Name the major types of records which should be incorporated in a fire department records and reports system.

Assignment Sheet No. 1 (Continued)

Directions - Complete the following statements by adding the proper word or words in the blank spaces.

1. The fact that a community has fire apparatus and various tools and equipment at its disposal does not shield its ______ from the possible __________ of _______.

2. The best manned department cannot do a good job unless it receives the consideration and support of the ___________ and their local ___________ body.

3. The grading of communities is done by the _______ _______ ___ ______ ________________ when the population is over 25,000, and by the ________ ____________ ___________ when the population is under 25,000.

4. The two most important features in a grading schedule are ___________ __________ and ____________.

5. The successful operation of any fire department, whether it be paid, part paid, or volunteer, depends upon the _________ and _________ of _________ member.

6. The creation and maintenance of good _________ ____________ between the _______ ____________ and the _________ of the ___________ has a powerful and beneficial influence on whatever results are established by this relationship.

7. Mutual aid plays a valuable part in community _______ ____________ and must not be ignored in the overall ________ ____ __________.

8. A good fire defense plan must encompass all the forces of devastation if it desires to insure the ________________, __________, and _________ of the inhabitants of the community in disaster situations.

9. The extensiveness of any record system will depend upon the _________ of the fire department and the ___________ of _____________ assigned to its maintenance.

10. Report forms are correlated with a record system in order to __________ the desired ________________ to the proper person or office.

Assignment Sheet No. 1 (Continued)

➧ **Directions - In the following statements, circle the T if the statement is true, or the F if it is false.**

1. T F A well organized and well trained fire department need not concern itself with fire defense planning.

2. T F It is only the responsibility of the chief of the fire department to provide the community with the best possible fire defense service.

3. T F Moral and financial support from the citizens and governing officials for their department can mean the difference between a good or poor fire department.

4. T F Both the Ohio Inspection Bureau and The National Board of Fire Underwriters use the same rating schedule.

5. T F The screening and selection of personnel should only be attempted by fully paid fire departments.

6. T F An efficient fire department must consist of capable and well trained personnel if it desires to receive the moral and financial support of the people it serves.

7. T F Mutual aid is not necessary in a small rural community.

8. T F When a community is a part of a good mutual aid system, emergency disaster planning is not necessary.

9. T F Although there is no direct relationship between the ability to keep good records and the ability to fight fires, comprehensive records are an essential part of good fire department operations.

Fire Service Training

Assignment Sheet No. 2 Name ____________________________ Date ______ Grade ______

CHEMISTRY OF FIRE

OBJECTIVES:

1. To acquaint the fireman with the characteristics of combustion and its direct relationship with proper extinguishing methods and media.
2. To familiarize the fireman with the explosive natures and properties of flammable liquids and gases, and dust from combustible materials.

ASSIGNMENT:

Fire Service Training, pp. 21-25

QUESTIONS:

➧ Directions - Answer the following in brief, concise statements or words as indicated by the question.

1. Define combustion or burning.

2. What is ignition temperature?

3. What is meant by "flash point?"

4. Explain spontaneous ignition.

5. What is smoke?

6. What three things are necessary to support combustion?

7. What is the normal oxygen content of air?

8. Below what percentage of oxygen content in air is flame extinguished?

9. Name two ways of reducing the percentage of oxygen around a flame.

10. When do explosions occur?

11. **Explain why dust explosions usually occur in pairs.**

12. **Name at least eight industries in which a dust explosion hazard may exist.**

13. **What is meant by the terms "too lean" or "too rich" to explode?**

Directions - Complete the following statements by adding the proper word or words in the blank spaces.

1. **The three factors necessary for combustion are ______ , __________ and ____________ .**

2. **A solid must first be _______ sufficiently to cause it to change into a ___________ ____ before it will ignite.**

Assignment Sheet No. 2 (Continued)

3. Any combustible liquid, when heated above its ______ ______, will produce ____________ vapors.

4. When firemen are able to determine the characteristics of a fire, they can decide which __________ of __________________ to use.

5. The force of an explosion depends upon the ________ of release of energy more than upon the ___________ of energy released.

6. Fire explosions which are caused by the release of heat energy through rapid oxidation may be described as ____________ ____________.

7. The nature of the dust, degree of ______________, amount of explosion ___________ provided, and quantity of dust in _____________ are factors influencing the intensity of the explosion.

8. The improper _____ and ___________ of flammable liquids cause many fires.

9. The ________ from the evaporation of a flammable liquid rather than the _________ burns or explodes when mixed with ______ in the presence of a source of ignition.

10. Familiarity with the properties and characteristics of flammable liquids and gases is important for _____________ fire fighting, ____________ of damage, and _________ lives.

Directions - In the following statements, circle the T if the statement is true, or the F if it is false.

1. T F A fire fighter with plenty of water and equipment needs no knowledge of fire characteristics when fighting a fire.

2. T F The size or mass of a substance has no bearing on the amount of heat needed to ignite that substance.

3. T F The flash points of flammable liquids vary with the temperatures at which they give off vapors to form ignitable mixtures with air.

4. T F Gasoline vapor given off at ordinary temperature is in a state favorable for ignition.

Assignment Sheet No. 2 (Continued)

5. T F Heavy fuel oil when heated above 300°F. releases vapors which are as flammable as those from gasoline at its flash point temperature.

6. T F The flash point of a flammable liquid is not important after the liquid is thoroughly heated.

7. T F Smoke is always the result of complete combustion.

8. T F Carbon monoxide is present whenever there is incomplete combustion.

9. T F Fine particles of flour, corn starch, baking soda, and sawdust are combustible when suspended in air in the proper concentration and ignited.

10. T F The lower the percentage of the explosive limit of a flammable liquid, the lower the hazard involved.

Fire Service Training

Assignment Sheet No. 3 Name ______________________ Date ______ Grade ______

CLASSIFICATION AND USES OF FIRE EXTINGUISHERS

OBJECTIVES:

1. To understand the necessity for using the proper type and size of fire extinguisher on various types of fires so that efficient results will be obtained.

2. To become familiar with the various types, uses, operation, and maintenance of first aid fire fighting appliances.

ASSIGNMENT:

Fire Service Training, pp. 26-42

QUESTIONS:

➧ Directions - Answer the following in brief, concise statements or words as indicated by the question.

1. Explain why fire extinguishers are important in fire fighting operations.

2. Define Class A, Class B, and Class C fires.

3. Explain briefly what the NUMERAL and LETTER in first aid appliances indicate.

4. Name the extinguishers which can be used effectively on each of the following type fires: Class A, Class B, and Class C.

5. List six items to check or inspect which could affect the operation of a fire extinguisher.

Directions - Complete the following statements by adding the proper word or words in the blank spaces.

1. Fire extinguishers are designed to cope with fires in their __________ and are not intended to act as a ________________ for ____________ sprinklers, standpipe, and hose or the ________ __________________ .

2. Each type of fire extinguisher is of value, but _______ are not equally effective upon _______ classes of fires.

Assignment Sheet No. 3 (Continued)

3. Under the present method of classification it is possible for units of the same size to have different __________.

4. Only extinguishers which carry the __________ __________ seal of approval are guaranteed for capability and performance.

5. Instructions regarding __________ of first aid appliances must be fully adhered to.

6. Fire extinguishers must always be __________ __________, and in a condition which will permit __________ operation at any moment without delay.

7. Common salt must not be used to make an anti-freeze solution as it may cause __________ and make the extinguisher __________ for use.

8. Every five years, extinguishers in service should be subjected to a hydrostatic __________ __________ to determine whether the appliance is capable to withstand the pressure which might be __________ during operation.

9. The instructions of the manufacturer of the extinguisher, regarding __________, __________ and __________, should be followed exactly.

Directions - In the following statements, circle the T if the statement is true, or the F if it is false.

1. T F Fire extinguishers are classified in accordance with the ability to extinguish the particular material or substance on fire.

2. T F A 20 pound dry chemical extinguisher has the same classification as a 20 pound carbon dioxide extinguisher.

3. T F Because both soda-acid and foam extinguishers use water in their make up, an anti-freeze solution should be used to protect them from freezing.

4. T F When using vaporizing liquid extinguishers, firemen should take precautions to avoid the effects caused by breathing the gases or vapors liberated or produced.

Assignment Sheet No. 3 (Continued)

5. T F **Dry powder extinguishers should be tilted when in operation to permit powder to be expelled more readily.**

6. T F **The coldness of the "snow" from the discharge of a CO_2 extinguisher is the important factor in extinguishing a fire with this unit.**

7. T F **All extinguishers should be examined at least once a year to positively determine if they are in proper operating condition.**

8. T F **Department records for extinguishers need only include recharging, replacement, and repair information.**

Fire Service Training

Assignment Sheet No. 4 Name ____________________ Date ________ Grade ______

WATER AS USED IN FIRE FIGHTING

OBJECTIVES:

1. To present to the fireman facts about heat absorption and physical properties of water and how it can best be used to extinguish fires.
2. To acquaint the fireman with the types and uses of fire streams.
3. To teach the principles and importance of hydraulics in the fire service.

ASSIGNMENT:

Fire Service Training, pp. 43-69

QUESTIONS:

➧ Directions - Answer the following in brief, concise statements or words as indicated by the question.

1. State briefly the function water plays in the extinguishment of Class A fires.

2. How is the standard measurement of heat expressed?

3. State briefly why the expression "feet of lift" and "inches of mercury" have the same meaning.

4. **What is meant by "head pressure"?**

5. **Name five types of fire streams.**

6. **State briefly the procedure to follow when placing a rotary nozzle into service which is attached directly to the hose and without shut off controls.**

7. **How can the approximate penetration of a solid stream directed from the street into an upper story of a building be quickly calculated?**

Assignment Sheet No. 4 (Continued)

➧ Directions - Complete the following statements by adding the proper word or words in the blank spaces.

1. After the pump operator receives orders to start the water in a hose line connected to the discharge of the pumper, he shall do so at a safe pump pressure of __________ to __________ p.s.i. unless a preplanned pressure was determined.

2. Friction loss in fire hose while discharging water is caused from the ____________________ within the hose line.

3. Nozzle pressure, plus friction loss, plus elevation equals ______________ ____________________.

4. When working in relay, each pumping unit must overcome the ______________ _________ in the hose line to the next pumper.

5. When pumping into a sprinkler system maintain _______ p.s.i. pump pressure at all times.

6. When pumping water into a standpipe system, maintain _______ p.s.i. nozzle pressure on the fire floor.

7. Successful fire fighting depends upon the use of proper ______________ ____________________.

8. The vertical pressure of a liquid is proportional only to the __________ of the liquid.

9. There are __________ cubic inches in one cubic foot.

➧ Directions - In the following statements, circle the T if the statement is true, or the F if it is false.

1. T F The function of water as an extinguishing agent is to absorb heat from the burning materials and the heated gases.

2. T F There are 23.1 cubic inches in one gallon.

3. T F One cubic foot of water is equal to 7.5 gallons.

4. T F A 50 ft. section of 2 1/2 inch hose has a capacity of 12.75 gallons.

Assignment Sheet No. 4 (Continued)

5. T F The greater the suction lift, the less energy is required to get water into the pump when drafting.

6. T F Streams directed from the street into a building provide effective penetration above the 4th story.

7. T F The size of the fire hose is a principle factor when determining stream velocity.

8. T F The resistance encountered by the free flow of water within a fire hose is described as friction loss.

9. T F With all things equal, the line having the smaller tip will have the greater friction loss.

Fire Service Training

Assignment Sheet No. 5 Name ______________________ Date ______ Grade ______

FIRE HYDRANTS

OBJECTIVES:

1. To present a working knowledge of various types of fire hydrants and their operation.
2. To learn the importance of flow pressure and volume of water available from each hydrant.
3. To learn the proper procedure for inspecting and testing fire hydrants.
4. To learn how to conduct fire flow tests on the water distribution system.

ASSIGNMENT:

Fire Service Training, pp. 70-82

QUESTIONS:

➧ Directions - Answer the following in brief, concise statements or words as indicated by the question.

1. Upon determining that the hydrants in a specific area are delivering an inadequate amount of water, what course of action is necessary?

2. Name six items that should be a part of a hydrant record card.

3. Name two types of hydrants (not manufacturers' names) that are in use today.

4. What is the major difference between these two types of hydrants?

5. Explain why self draining hydrants which are constructed to drain all the water from the hydrant after use are sometimes plugged.

6. Name three common inspection periods for fire hydrants.

➧ Directions - Complete the following statements by adding the proper word or words in the blank spaces.

1. New fire hydrant installations should be ____________ thoroughly to clear the water main in that area before it is reported "in-service" for fire department use.

2. When a "flood situation" exists, the hydrant ________________ valve (if one is provided) should be closed until the flood water recedes.

3. Some two way hydrants are constructed with a two way _____________ __________ built within the hydrant barrel.

4. It is important that firemen inspect the ________________ hydrant valves and valve chambers when inspecting hydrants.

5. Before making any hydrant flow test, the superintendent of the ____________ ____________ should be consulted.

6. Each fireman should have a working knowledge of the ____________ ____________ of the hydrants within the territory in which he responds to fires.

7. In freezing weather hydrants should be ____________ after each use and checked frequently.

8. When a hydrant will not shut off completely, it is often necessary to re-open the hydrant and flow some water from it in order to ____________ out any foreign material from the valve seat.

9. The success of a fire department in extinguishing fires is often dependent on the ____________ of water available.

10. After flood waters recede, the ____________ valve must be opened in order to restore normal operation.

Directions - In the following statements, circle the T if the statement is true, or the F if it is false.

1. T F In general, most fire hydrants having a barrel less than six inches in diameter cannot be expected to deliver a large quantity of water when needed.

2. T F The marking of hydrants as to quantity of water available will give assurance that these hydrants will discharge the amount indicated.

3. T F All fire hydrant stems turn clockwise to open and counterclockwise to close.

4. T F Some hydrants are constructed to permit the water to drain from the hydrant automatically.

5. T F Before opening the main hydrant valve of any hydrant, the caps for discharges not being used should be securely tightened.

6. T F In closing a hydrant valve, care must be exercised to prevent the threads on the bronze stem nut from being damaged.

Assignment Sheet No. 5 (Continued)

7. T F When closing hydrant valves that open against the pressure, the hydrant operating valve stem will turn freely until it reaches a near closed position.

8. T F Many fire departments have their personnel inspect fire hydrants as a department project while other departments have this done by another city agency.

9. T F When a community annexes new territory, the hydrants within said territory should be inspected and tested for services required.

10. T F All hydrants having a multiple number of discharges are equipped with a swinging gate located within the hydrant barrel.

11. T F Hydrants that are located in flood territory should be recorded in a log book as a reference for future situations.

Fire Service Training

Assignment Sheet No. 6 Name ______________________ Date ________ Grade ______

STANDPIPE AND HOSE SYSTEMS, SPRINKLER EQUIPMENT AND AUTOMATIC ALARMS

OBJECTIVES:

1. To give firemen a basic knowledge of the purpose and operation of standpipe and hose systems, sprinkler systems and automatic alarms.

ASSIGNMENT:

Fire Service Training, pp. 83-101

QUESTIONS:

Directions - Answer the following in brief, concise statements or words as indicated by the question.

1. Name two major types (not manufacturers' names) of standpipe systems.

2. State briefly what benefit a fire department derives from a standpipe system that is installed in a building.

3. What is the maximum distance above the floor that a standpipe hose outlet should be located?

4. What is the recommended maximum size of nozzle tip used on a (a) small hose (b) large hose?

5. Name five acceptable sources of water supply for a standpipe or sprinkler system.

6. What is a "post-indicator valve"?

7. How can firemen determine the difference between a wall hydrant, sprinkler system, and standpipe system whose hose connections are located outside the building?

8. State briefly what constitutes a "sprinkler system."

9. After a fire in a sprinklered building has been extinguished, what action is recommended before the fire companies return to quarters?

10. How is a local sprinkler alarm activated?

Directions - Complete the following statements by adding the proper word or words in the blank spaces.

1. Standpipe systems provide a reliable means to obtain effective ________ ________________ to the upper stories of tall buildings.

2. Standpipe system outlets ____________ ____________ are of extreme value to the fire department.

3. In buildings divided by many partitions, standpipe ____________ are located so fire streams can be ________________ used in any room.

4. Hose and other equipment for standpipe systems are sometimes stored in specially designed ____________.

5. Standpipe hose outlets for use by ______________ shall be equipped with not more than __________ feet of small fire hose.

6. Each standpipe hose rack for 2 1/2" hose should be permanently identified by a sign reading "For __________ ____________________ Use Only."

7. A water supply of less than _____ p.s.i. flowing pressure at the highest standpipe outlet in a building is considered inadequate.

8. Standpipe hose on hose racks should be removed and refolded every _____ days.

9. Standpipe systems that must be placed "out of service" for any reason should be __________________ to the fire department immediately.

10. All standard siamese intakes have ________________ hose connections.

11. Either an outdoor ____________ ___________ alarm or _______________ alarm gong should be installed in every case where a sprinkler system is not provided with an approved water flow alarm to a central station.

Assignment Sheet No. 6 (Continued)

Directions - In the following statements, circle the T if the statement is true, or the F if it is false.

1. T F The siamese intake for sprinkler systems should be clearly marked.

2. T F It is sometimes desirable to use the sprinkler system in an exposure building to obtain a desired hose stream.

3. T F It is advisable to first size-up the situation before leaving an elevator cab on an upper floor of a fire building.

4. T F It is not necessary for a rural fire department to study and understand the function of a sprinkler system.

5. T F A sprinkler system affords the most effective means of delivering water to the seat of the fire.

6. T F Some electric power companies have installed water distributing sprinkler systems over and around large electrical transformer stations located outside buildings.

7. T F P.I.V. markings pertain to post indicator valve.

8. T F O.S.&Y. valves are outside screw & yoke valve.

9. T F "Floor control valves" for sprinkler systems are sometimes installed just outside a hospital operating room.

10. T F A paper bag placed over a sprinkler head located within a paint spray booth does not reduce the effectiveness of the sprinkler system.

11. T F Some sprinkler systems are a non-supervised installation having only a "water gong" on the outside of the building.

12. T F Rate-of-rise alarm devices are seldom installed in art museums.

Fire Service Training

Assignment Sheet No. 7 Name ______________________________ Date ______ Grade ______

FIRE PUMPS

OBJECTIVES:

1. To stress to the fireman the importance of fire pumps as used in the fire service.
2. To acquaint the fireman with the mechanical and scientific principles of the various types of pumps.
3. To teach the fireman the proper operation and maintenance of the various type pumps.

ASSIGNMENT:

Fire Service Training, pp. 102-117

QUESTIONS:

Directions - Answer the following in brief, concise statements or words as indicated by the question.

1. What is the important function of the pump when (a) operating from a hydrant and (b) working from draft?

2. Why is it not necessary to prime a piston type or rotary gear pump?

3. Why is a screen necessary in the intake side of a pump?

Assignment Sheet No. 7 (Continued)

4. **What are the two methods used in priming centrifugal pumps?**

5. **What is a churn valve on a positive displacement type pump?**

6. **What are the two general types of Bourdon gauges used for fire department service?**

7. **What is the function of the tachometer?**

8. **What are the qualifications required for a Class "A" pump by the N.B.F.U.?**

9. **List the type or types of pumps used in your department.**

Assignment Sheet No. 7 (Continued)

➧ Directions - Complete the following statements by adding the proper word or words in the blank spaces.

1. The three types of pumps are __________ , __________ __________ , and ______________________ .

2. The ______________ and ______________ __________ pumps are of the positive displacement type.

3. The ____________________ pump is unable to prime itself for suction.

4. An automatic relief valve or a pump ____________ ______________ is provided on a centrifugal pump to regulate sudden changes in pressure.

5. All pumps should be equipped with direct reading gauges to indicate ______________ and ______________ pressure while pump is in operation.

6. For normal service a booster tank having a minimum capacity of ______ gallons is recommended on fire apparatus.

7. The ______________ ________ can be used to relay water to the fire pumper from a pond, stream, well or other water supplies.

8. Three requirements to pump water into a fire hose are ____________ , ____________ and open __________ .

➧ Directions - In the following statements, circle the T if the statement is true, or the F if it is false.

1. T F It is never necessary to prime a centrifugal pump.

2. T F When using a vacuum prime, the higher the engine speed the faster the pump will be primed.

3. T F High pressure pumps are pumps that will develop 800 p.s.i. or higher.

4. T F The location of all drain valves on the pump are of vital importance to the pump operator.

Assignment Sheet No. 7 (Continued)

5. T F A versatile, easy to operate, foam system is the ideal system for modern day fire apparatus.

6. T F It is not important that a fire department pumper meet the standards required by the N.B.F.U.

Fire Service Training

Assignment Sheet No. 8 Name ______________________ Date ______ Grade ______

FIRE HOSE

OBJECTIVES:

1. To acquaint firemen with the sizes, types and care of fire hose.
2. To familiarize firemen with the proper methods of loading hose.
3. To learn the proper use and handling of hose lines.
4. To learn the importance of maintaining adequate hose records.

ASSIGNMENT:

Fire Service Training, pp. 118-145

QUESTIONS:

Directions - Answer the following in brief, concise statements or words as indicated by the question.

1. Name each size (diameter) fire hose used by the local fire department, giving a brief description of each as to construction.

2. What effect does gasoline, oil, and paint have on rubber lined fire hose?

3. How can a pump operator reduce the amount of chafing on fire hose connected to a pumper?

4. Why is a hose line that has been elevated up the outside of a building to an upper story or roof supported every 25 feet?

5. If a gasket is allowed to protrude into the water way of a hose line, what effect will this have?

6. Name four types of hose loads commonly used in the fire service.

7. Name three operations where a hose clamp can be effectively used at a fire.

Assignment Sheet No. 8 (Continued)

Directions - Complete the following statements by adding the proper word or words in the blank spaces.

1. An advantage in using a "Keenan Hose Loop" is that it will permit ________ fireman to control a hose stream having a substantial nozzle ____________.

2. The service life of fire hose is dependent upon the ____________ given it at fires and in quarters.

3. Pump operators can eliminate much chafing of fire hose by the use of ______________ blocks.

4. Where detours for traffic cannot be maintained, hose ______________ should be used.

5. When laying the first hose line to a fire, the selection of the __________ in relation to the __________ is important.

6. Mildew, mold, and other forms of fungus growth on fire hose are caused by __________________ drying.

7. The weight of water in a 50 ft. section of 2 1/2" hose when completely filled is approximately ________ ______________.

8. To estimate the amount of fire hose required to advance from the base of the building up an inside stairway to an upper story, allow ____________ ________ ___________ __________________ for each story the nozzle must be elevated.

9. When the fire hydrant or other source of water supply is on the opposite side of the street from the fire, the hose should be laid ______________ to the curb on the hydrant side of the street up to a point opposite the fire, then cross over to the fire building.

10. When rubber lined hose is subjected to excessive heat, _______________ of the rubber may result within the hose.

11. Several different designs of hose couplings have been used in the fire service but the one most commonly used today is the ______________ ____________ type.

12. Hose gaskets are made of ___________________ material or good live ____________________.

Assignment Sheet No. 8 (Continued)

➡ **Directions - In the following statements, circle the T if the statement is true, or the F if it is false.**

1. **T F The Ohio Inspection Bureau utilizes the hose records of a fire department as one of the many factors when rating a fire department.**
2. **T F A hose record file card is of little use to a fire department whose major number of fires are in an area where no fire hydrants exist.**
3. **T F The hand signal, to the pump operator, to start water in a booster line is "raise one arm vertically from the shoulder, palm of hand to the rear and hold it stationary."**
4. **T F The Cooper Hose Jacket is used to stop the flow of water in a 50 ft. section of 1 1/2" hose.**
5. **T F A two-way siamese connection can be used to make one line into two or two lines into one providing there are no clapper valves permanently installed within the siamese.**
6. **T F When replacing a burst section of hose it is sometimes necessary to use two sections in order to overcome the elongation previously created by the water pressure in the original section of hose.**
7. **T F When working at a fire with a charged hose line, it is advisable to have an additional 50 ft. of hose behind the nozzle for advancement purposes.**
8. **T F When preparing to "catch-a-hydrant" the driver of the pumper need only slow down enough to allow the layoff man to step off with his hose and fittings.**
9. **T F A divided hose load is accomplished through the use of a baffle board.**

Fire Service Training

Assignment Sheet No. 9 Name ______________________ Date ______ Grade ______

TOOLS AND EQUIPMENT

OBJECTIVES:

1. To learn the proper and safe use and limitations of minor equipment.
2. To learn the proper care of small tools and appliances.

ASSIGNMENT:

Fire Service Training, pp. 146-158

QUESTIONS:

Directions - Answer the following in brief, concise statements or words as indicated by the question.

1. Explain the use of a hydrant pump and why it is used.

2. Why should the moving parts of tools be oiled lightly?

3. What are the advantages of using a Walkie-Talkie in the fire area?

4. Why should wood handles never be painted?

5. What type motors must be used in smoke ejectors?

Directions - Complete the following statements by adding the proper word or words in the blank spaces.

1. Wood handles must be free of ______________ and ________________ and be tight in the ____________ .

2. The battering ram is used to ______________ walls or to force doors that cannot be ______________ in any other way.

3. The oxy-acetylene cutting torch can be used for cutting steel, ______________ _______ and other __________________ metals.

4. The __________ __________ is used to carry or drag hose, _________ lines on ladders, and to _________ ladders to windows and fire escapes.

5. The __________________ ____________ is used to tighten or loosen hose couplings.

Directions - In the following statements, circle the T if the statement is true, or the F if it is false.

1. T F Battering tools must always be used for forcible entry.

2. T F Tools must be maintained in first class condition at all times.

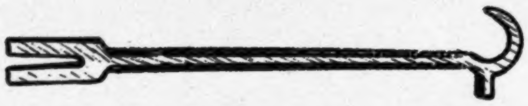
3. T F The pull down hook is used to pull down unsafe walls.

4. T F The hux bar can be used as a metal roof cutter or hydrant wrench.

5. T F It is not a good policy for each member of the department to carry a flashlight.

Assignment Sheet No. 9 (Continued)

➧ Directions - Identify the following tools by placing the name of the tool in the blank space.



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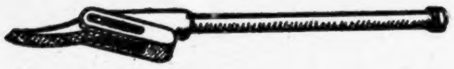

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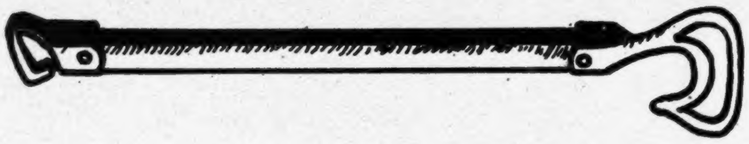

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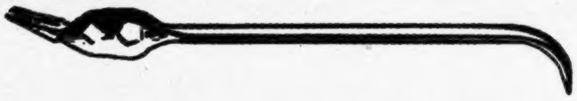

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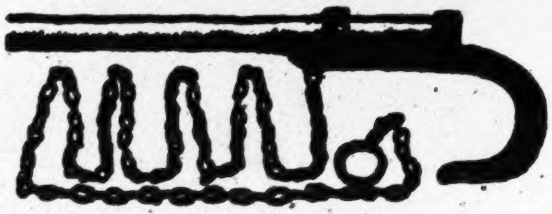

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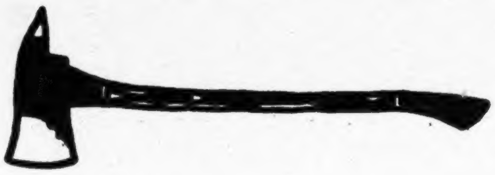

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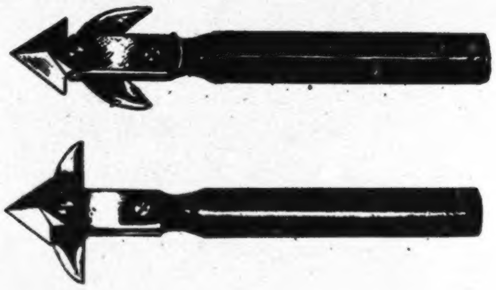

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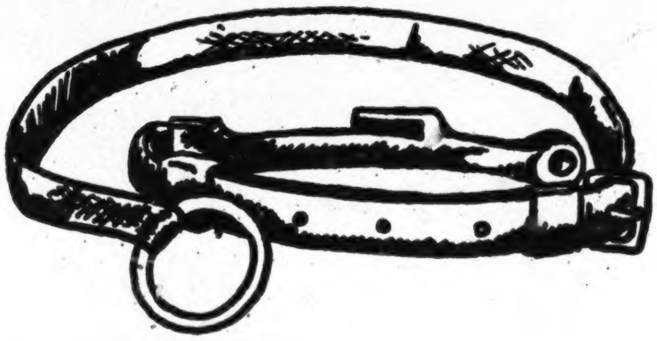

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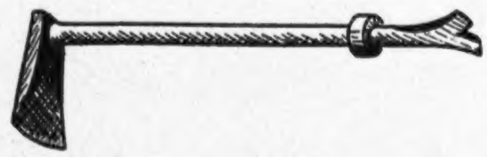

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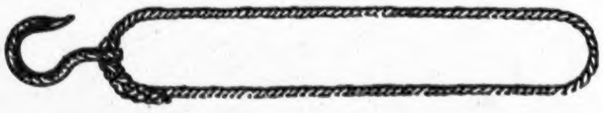

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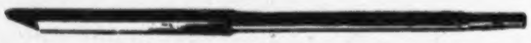
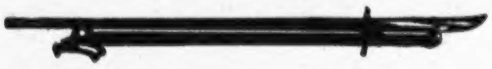


11. ______________________________



12. ______________________________

Fire Service Training

Assignment Sheet No. 10 Name______________________________ Date_______ Grade____

ROPE IN THE FIRE SERVICE

OBJECTIVES:

1. **To acquaint the fireman with the importance of the use of rope in modern day fire fighting.**
2. **To acquaint the fireman with the construction and care of rope.**
3. **To develop in each fireman the ability to tie the necessary knots and hitches and to know where each should be used to the best advantage.**

ASSIGNMENT:

Fire Service Training, pp. 159-173

QUESTIONS:

Directions - Answer the following in brief, concise statements or words as indicated by the question.

1. **What are the three most common fibers used in rope for the fire service?**

2. **Why should new rope be straightened before being used?**

3. **Name five ways rope can be used to good advantage.**

Assignment Sheet No. 10 (Continued)

4. For what purpose is a square knot used?

5. What knot is used more than any other in the fire service?

6. What knot is extensively used for rescue work?

➧ Directions - Complete the following statements by adding the proper word or words in the blank spaces.

1. Rope is usually described by giving its ________________ in inches.

2. In choosing a rope for a given purpose, the maximum or breaking strength should be ______________ times that of the weight of the object to be lifted.

3. Both the ________________ and the ________________ of the rope should be examined after each time used.

4. The nine common knots that a fireman should know how to tie are:

a. ______________________ f. ______________________

b. ______________________ g. ______________________

c. ______________________ h. ______________________

d. ______________________ i. ______________________

e. ______________________

5. The two types of splices used for rope in the fire service are the ______________ splice and the ______________ splice.

➧ Directions - In the following statements, circle the T if the statement is true, or the F if it is false.

1. T F Most of the rope used in the fire service is hawser laid.

2. T F When a knot is tied in a length of rope, the strongest part of the rope is at the knot.

Assignment Sheet No. 10 (Continued)

3. T F One disadvantage of the square knot is that it will slip.

4. T F The half hitch is most widely used both alone and in combination with a variety of other knots.

5. T F The clove hitch is commonly used for raising or lowering small equipment.

6. T F The sheep shank is used to temporarily shorten or strengthen a defective section of rope.

7. T F The becket knot is used to fasten two ropes of the same size together.

Fire Service Training

Assignment Sheet No. 11 Name ______________________________ Date ______ Grade ______

LADDERS

OBJECTIVES:

1. **To stress the importance of ladders in conjunction with successful fire fighting and rescue operations.**

2. **To study the types, design and materials used in the construction of all ladders in the fire department.**

3. **To develop the art of carrying, raising and climbing the various ladders used in the fire department.**

4. **To acquaint firemen with the proper care and inspection of ladders.**

ASSIGNMENT:

Fire Service Training, pp. 174-200

QUESTIONS:

Directions - Answer the following in brief, concise statements or words as indicated by the question.

1. **Name the two types of beam design for fire department ladders.**

2. **What advantage does the one type of beam design have over the other type?**

3. **Name the five different type ladders used in the fire service.**

4. What is the advantage of the hooks on a roof ladder when properly placed over roof peaks, sills, walls or coping of an opening?

5. What materials are considered the best for (a) beams and (b) rungs on wooden ladders?

6. Why should the top 18 inches of a ladder be painted some distinctive color?

7. What defects should be looked for when inspecting the following items of a ladder:

   a. Rungs

   b. Beams

   c. Butts

   d. Ropes

   e. Locks & Pulleys

   f. Tie Bolts and Beam Bolts

8. What method is generally used in normal situations to determine the distance the ladder heels should be placed from a building to assure safe climbing angle?

9. What is the purpose of a "leg lock" when working from a ladder?

Assignment Sheet No. 11 (Continued)

Directions - Complete the following statements by adding the proper word or words to the blank spaces.

1. Rungs of a trussed ladder are set either into the ____________ of a ladder or into __________________ attached to the beam.

2. An ____________________ ladder is a ladder built in two or more sections.

3. The _______ ______________ is the upper section of an extension ladder.

4. The _______ ____________ __________________ ladder is usually found on pumping units.

5. Roof ladders of the hook type range from _____ to _____ feet in length.

6. When using a one man carry, the __________________ end of the ladder should be carried low.

7. When making a vertical carry the ________ of the ladder should be watched constantly.

8. Two common types of ladder raises are the ___________ and the ________ raise.

9. It is advisable to use the hand on the _____________ rather than the ___________ in ladder climbing only when it is necessary to carry an object.

10. The ____________ or ________________ ladder is especially useful for inside work.

Directions - In the following statements, circle the T if the statement is true, or the F if it is false.

1. T F The farther the base of a ladder is placed away from a building the greater the load it can carry safely.

2. T F Before advancing on the fly ladder, it is considered good practice to check the locks.

3. T F Paint is a better coating for ladders than varnish.

Assignment Sheet No. 11 (Continued)

4. T F When extending the fly of an extension ladder, the men supporting the main ladder should grasp the beam and never the rungs.

5. T F Extension ladders, when equipped with "tormentor poles," are commonly called "bangor ladders."

6. T F Commercial ladders, such as used by painters and construction workers, are adaptable to the fire service.

7. T F When carrying extension ladders vertically, it is a good practice to leave the fly extended.

8. T F Ladders should not be placed in the center of a window.

9. T F Precautions should be taken when raising or lowering aluminum ladders to avoid electrical lines.

10. T F The leg lock is made with the leg on the same side of the ladder from which work is to be performed.

Assignment Sheet No. 12 Name ______________________ Date ______ Grade ______

GAS MASKS

OBJECTIVES:

1. To acquaint firemen with the common gases that they may encounter.
2. To emphasize the importance, requirements, and necessity for using gas masks to protect fire fighters from the inherent hazards which exist or arise during emergency operations.
3. To acquaint firemen with the various types, operation, limitations, uses and care of respiratory equipment.
4. To offer some suggestions which will aid in the training of firemen in the use of this equipment.

ASSIGNMENT:

Fire Service Training, pp. 201-218

QUESTIONS:

➧ Directions - Answer the following in brief, concise statements or words as indicated by the question.

1. What is a self-contained breathing apparatus?

2. What are the instructions from the U.S. Atomic Energy Commission relative to the wearing of masks where radiation hazards may be involved?

Assignment Sheet No. 12 (Continued)

3. What are the three types of masks used in the fire service?

4. Will a filter type canister mask always afford two hours protection against 2% concentrations of all kinds of gases? Explain why.

5. What is the purpose of the by-pass valve on the demand type breathing apparatus?

6. What is the purpose of the pressure relief valve on the self-generating mask?

Directions - Complete the following statements by adding the proper word or words in the blank spaces.

1. It is extremely important and necessary to protect firemen in a time of emergency who must operate in atmospheres containing ________________ and ____________ gases.

2. One of the fundamental rules of fire fighting should be that no one, unless equipped with __________________________________ or _________________ _________________ air supplying apparatus, be allowed in a fire involved area.

3. In addition to the ________________ caused by a poisonous gas, firemen must also be aware of the potential ___________________ _________________ involving some of these gases.

Assignment Sheet No. 12 (Continued)

4. The best way to ____________ a dangerous deficiency of ____________ is to observe the ____________ of a safety lamp.

5. The air hose on a fresh air or hose mask must be highly resistant to petroleum ______________ and ____________, and be able to ____________________ crushing weight.

6. Self-contained breathing apparatus of the demand type, all use the same principle of operation; however, some use compressed ______________ while others use compressed ________.

7. In the self-generating oxygen mask the _________________ in the canister purify the exhaled breath by absorbing the carbon dioxide and generate ___________ ______________ for breathing.

8. Where gas masks are not used too frequently, they should be removed from their carrying cases ______________________ and ____________ by personnel to prevent the materials in the mask assembly from becoming stiff or hardened from lack of use and keep them pliable.

Directions - In the following statements, circle the T if the statement is true, or the F if it is false.

1. T F All filter type canisters are painted red.

2. T F An approved canister does not always guarantee two hour protection.

3. T F The top and bottom seal on all filter-type canister masks should be replaced after each use.

4. T F The fresh air or hose mask is suitable for respiratory protection against all atmospherical contaminants.

5. T F The working parts on self-contained breathing apparatus should always be well oiled and greased for efficient operation.

6. T F The canisters on both the self-generating and filter-type masks filter the outside air as it passes through the canister.

7. T F Increased resistance of exhalation is not always a positive indication that the canister on a self-generating mask is about expended.

Assignment Sheet No. 12 (Continued)

8. T F Fogging of lenses on inhalation when wearing a self-generating mask is an indication that the canister is about expended.

9. T F After completing work in an area involving radioactive material, the mask should be removed immediately to eliminate further contamination.

Fire Service Training

Assignment Sheet No. 13 **Name**____________________________ **Date**______ **Grade**______

ADVANCE INFORMATION - THE ALARM

OBJECTIVES:

1. **To teach firemen the importance of advance information in efficiently and safely combating a fire when it occurs.**
2. **To acquaint firemen with the importance of an efficient and dependable alarm system.**

ASSIGNMENT:

Fire Service Training, pp. 219-220

QUESTIONS:

➡ **Directions - Answer the following in brief, concise statements or words as indicated by the question.**

1. **How may the knowledge of advance information be obtained by members of the department?**

2. **Why is the knowledge of the location of all property to be protected of vital importance?**

3. **Why is a dependable and properly maintained alarm system an important factor in fire fighting tactics?**

4. What can a fire department do to familiarize the public with the importance of the proper way to summon the department in case of a fire?

Directions - Complete the following statements by adding the proper word or words in the blank spaces.

1. The more ______________ ________________ the firemen have, the more ______________ they will be able to __________ the fire when it occurs.

2. Advance information as to building ______________ and ____________ is necessary to meet and combat fire problems successfully.

3. The two most common means of sending in an alarm by the public are __________ ________ and ______________ .

4. Regardless of the type of alarm system used, it must be properly ______________ and ______________ to fit the needs of the local community.

Directions - In the following statements, circle the T if the statement is true, or the F if it is false.

1. T F It is of utmost importance that firemen have a knowledge of advance information prior to a fire.

2. T F A complete study should be made of all water supplies available.

3. T F The tanker or tanker pumper is used to supplement the local water supply in many communities.

4. T F The means of receiving an alarm is of minor importance in fire department efficiency.

Fire Service Training

Assignment Sheet No. 14 **Name** ____________________________ **Date**________ **Grade**________

SIZE-UP

OBJECTIVES:

1. To learn the importance of size-up.
2. To acquaint firemen with a step-by-step method to follow in making the size-up.
3. To study a plan of procedure to follow and conditions that may be encountered in using the step-by-step method.

ASSIGNMENT:

Fire Service Training, pp. 221-223

QUESTIONS:

➧ Directions - Answer the following in brief, concise statements or words as indicated by the question.

1. List five essential facts that must be considered in making the size-up.

2. Why is it important to have good supervision at every emergency at all times?

3. Define the term "size-up" as it relates to the fire services.

4. What two groups of people is the officer in charge mainly concerned with in relation to life hazards at the scene of a fire emergency?

Directions - Complete the following statements by adding the proper word or words in the blank spaces.

1. The officer in charge must maintain __________ __________ in order to completely and accurately survey the situation and reduce the hazards involved.

2. A trained and disciplined mind is required to appraise the many factors an officer is confronted with at any emergency; this is accomplished through __________ and __________ .

3. An officer's ability to quickly analyze a changing situation during any phase of an emergency often is a measure of his __________ or __________ .

4. Firemen must consider __________ and __________ exposures.

5. In the size-up of a fire, the officer must __________ and __________ the primary fire protection equipment within the involved and/or exposed building.

Directions - In the following statements, circle the T if the statement is true, or the F if it is false.

1. T F The initial action of a subordinate officer at the scene of a fire is of no importance to a higher ranking officer on his arrival.

2. T F Making a size-up of a fire will in no way affect the results desired.

3. T F The first officer or man in charge determines the initial action to be taken and remains in command over all other officers on their arrival.

4. T F The involved life hazard at an emergency must be given the foremost consideration.

Assignment Sheet No. 14 (Continued)

5. T F The time and location of school building fires need not be a major concern when making a size-up of the situation.

6. T F The nature of any emergency governs the speed at which all vehicles should travel without regard for traffic conditions, weather, hour of the day, and conditions of the streets (or roads).

7. T F When making a size-up of a building fire, it is necessary for the officer in charge to include in his plan of action air conditioning systems and sprinkler systems.

8. T F The ability of a fire department officer to make an accurate size-up of an emergency is partially due to pre-planning.

9. T F A size-up of an emergency begins on the arrival of the fire chief at the location involved.

10. T F A standby service is one in which no action is taken until the arrival of the fire chief.

11. T F Coordination and effective use of the firemen can be accomplished through proper supervision.

12. T F The use of portable radio equipment offers little to the plan of fighting a large building fire.

Fire Service Training

Assignment Sheet No. 15 **Name** ______________________ **Date** ________ **Grade** ______

FORCIBLE ENTRY

OBJECTIVES:

1. To teach firemen that less property damage will result by using proper methods of forcible entry, that life hazards will be reduced and better public relations will be created.

2. To acquaint firemen with the different methods and the proper use of tools in making a forced entry.

ASSIGNMENT:

Fire Service Training, pp. 224-230

QUESTIONS:

➧ Directions - Answer the following in brief, concise statements or words as indicated by the question.

1. What is the proper way to break glass in a window or door when making a forced entry?

2. Why is the breaking of glass in a standard window or door the most advisable form of forcible entry?

3. How is a Kelly tool used in opening a locked door in a stopped frame that swings in from the operator?

4. Why do overhead rolling doors offer the greatest resistance to forcible entry?

5. When forcing a double hung window, where should the prying be done?

6. What is the general procedure in opening a locked, metal storm door?

➡ Directions - Complete the following statements by adding the proper word or words in the blank spaces.

1. Double hinged doors may be opened either with an __________ or the ______________ _________.

2. A ____________________ ________ may be used to force doors when no other method is successful.

3. It is practically impossible to open factory type windows from the ________________ without breaking the glass.

4. When breaching a brick wall, the hole should be made ________________ ______________ as this does not weaken the wall so much.

5. The cut should be made diagonally to the grain of the wood when cutting __________________, __________________ or ___________________.

6. Cut as close to a _____________ or ______________ as possible when putting holes through a floor or roof.

7. The common types of residence windows are __________________, __________________, ______________ _________ casement and basement.

Assignment Sheet No. 15 (Continued)

Directions - In the following statements, circle the T if the statement is true, or the F if it is false.

1. T F Using the proper tools is very important when making a forced entry.

2. T F It is impossible to make effective entry from the roof.

3. T F The proper use of a fire axe does not warrant the use of short strokes.

4. T F The pike pole is not effective in pulling down metal ceiling.

5. T F When glass must be broken out, it is very important to remove all jagged pieces from the sash.

6. T F When opening up a stud partition only a small hole is necessary to expedite tearing off the remaining lath.

Fire Service Training

Assignment Sheet No. 16 **Name** ______________________________ **Date** ________ **Grade** ________

RESCUE

OBJECTIVES:

1. To acquaint firemen with the principles governing the various rescue practices.

2. To learn the proper use of tools and equipment, the various carries and drags necessary to effect rescue.

ASSIGNMENT:

Fire Service Training, pp. 231-254

QUESTIONS:

Directions - Answer the following in brief, concise statements or words as indicated by the question.

1. List the seven factors to be considered regarding rescue in case of fire or other emergencies within a building.

2. Explain the proper procedure to follow after removing infants from the building.

3. Explain the care for children after they have been rescued.

4. Explain the care of the sick after they have been rescued.

5. Explain the care for the aged after they have been rescued.

Directions - Complete the following statements by adding the proper word or words in the blank spaces.

1. ________, rather than fire, has been the major cause of death in places of ____________ ________________.

2. All firemen should have an active __________ _______ card so that they can give more efficient service to the public.

3. ______________ conditions at the time of fire have an ______________ bearing on the problem of rescue.

Assignment Sheet No. 16 (Continued)

4. Officers and ____________ must know the life ____________ found in public, commercial, and apartment buildings under their protection.

5. Firemen must keep rescue equipment in first class ____________ and be thoroughly ____________ in the proper use and limitations of that equipment.

6. A victim drowned in rapid water will probably be located in the first ________ ________ downstream.

7. Sometimes fat bodies and bodies of small children may not ________ after drowning, but will remain ____________ on the surface of the water.

8. The oxy-acetylene cutting torch can be used to cut ____________, ____________ iron and other ____________ metals.

9. The torch, valves, and connections should be checked for ________ before the torch is lighted.

10. A fireman's duties make it necessary for him to face situations in which ______________ equipment or ____________ is involved.

11. Any fallen wire is dangerous and can mean instant death to the poorly ____________ fireman.

12. The general rescue value of ladders is for the removal of ________ from the ________ stories of buildings.

13. When walking a woman down a ladder, the knee of the rescuer ______ ________ placed between the legs of the woman.

Directions - In the following statements, circle the T if the statement is true, or the F if it is false.

1. T F Rescue is the first action to be taken on arrival at a fire.

2. T F Carrying astride back is a comfortable one-man method of transportation.

3. T F Front piggy back is not an excellent way to carry a conscious victim.

Assignment Sheet No. 16 (Continued)

4. T F The clothes drag should not be used on victims too heavy to carry.

5. T F The blanket drag can be used in place of the clothes drag.

Fire Service Training

Assignment Sheet No. 17 Name ______________________ Date ________ Grade ________

EXPOSURES AND CONFINEMENT

OBJECTIVES:

1. To understand the methods by which heat is transmitted, thereby making it possible to control the spread of fire.
2. To learn the principles and methods of covering exposures.
3. To learn the importance and proper methods of confining a fire to the smallest possible area.

ASSIGNMENT:

Fire Service Training, pp. 255-261

QUESTIONS:

Directions - Answer the following in brief, concise statements or words as indicated by the question.

1. What is the meaning of the word "exposure" as used in the fire service?

2. What is meant by "convection" as it applies to the fire service?

FIRE SERVICE TRAINING

Assignment Sheet No. 17 (Continued)

3. **What constitutes the fire field?**

4. **List five directions in which a fire may extend.**

5. **Name seven protective devices that may be employed to prevent the spread of fire.**

6. **What is the meaning of "covering exposures"?**

7. What is meant by confinement?

Directions - Complete the following statements by adding the proper word or words in the blank spaces.

1. The three ways by which heat may be carried to exposed materials are by ____________________, ______________________, and ____________________.

2. The two types of exposure hazards are ___________________ and ____________________.

3. ______________ are the best conductors of heat.

4. Firemen use _________ ________________ as a shield between the fire and the exposed material so that the material will not become hot enough to burn.

5. Where buildings are divided into sections by fire walls, the openings in these walls should be protected by __________ ___________.

6. ________ ____________ and __________ ____________ are used to prevent the fire from spreading through the windows.

7. Modern _______ ____________________ systems have created a new problem in confining fires.

Directions - In the following statements, circle the T if the statement is true, or the F if it is false.

1. T F If a group of buildings are involved in fire and only a limited amount of water is available, the water should be used to protect surrounding buildings and not the original fire.

2. T F The leeward side of a fire is the least dangerous when covering exposures.

3. T F All exposed materials and buildings should be checked for fire.

Assignment Sheet No. 17 (Continued)

4. T F Silk and wool are good heat conductors.

5. T F Heat radiation is the transmission of heat from one object to another by heat waves or rays.

6. T F Small streams are more suitable for covering interior exposures due to their mobility.

Fire Service Training

Assignment Sheet No. 18 **Name** ____________________ **Date** ________ **Grade** ______

FIRE EXTINGUISHMENT

OBJECTIVES:

1. To understand the theory of fire extinguishment by application of the three methods used in the process of fire fighting.
2. To learn the application, use, and effects of various fire extinguishing media.
3. To become familiar with practices used in the extinguishment of various types of fires.

ASSIGNMENT:

Fire Service Training, pp. 262-285

QUESTIONS:

➧ Directions - Answer the following in brief, concise statements or words as indicated by the question.

1. Name the three methods of extinguishing fires and the principle and/or agent associated with each.

2. In general fire streams fall into two categories. What is the name and purpose of each?

3. What special hazard should firemen guard against when fighting room fires with a hose stream through only one opening?

4. Name three methods which can be used to detect fires within a partition.

5. What important factor in the use of water must be considered when fighting an attic fire?

6. What is the first consideration of the fire department in fighting a basement fire?

Assignment Sheet No. 18 (Continued)

7. **What are the necessities for efficient fire fighting tactics and control in view of the many problems associated with mercantile and industrial fires?**

8. **When combating a fire involving horizontal flammable liquid storage tanks, what precaution should be observed? Explain why.**

9. **What precautions must be observed when fighting a fire involving a vehicle having an air suspension system instead of metal springs?**

10. **Name the five basic precautions to be exercised in any LPG emergency.**

Assignment Sheet No. 18 (Continued)

11. List the equipment available in your department that could be used in extinguishing an aircraft fire.

Directions - Complete the following statements by adding the proper word or words in the blank spaces.

1. To know how to secure the greatest practical measure of ____________ and fire fighting ____________ at the fire scene requires wide knowledge and experience and the exercising of __________ ____________________ in each fire problem.

2. All the legs of the fire triangle, referred to as ______________, ____________________ and __________ are essentials necessary to have fire.

3. The amount of steam created when water is applied to a fire depends upon the ____________________ of the fire in relation to the ____________ of water applied.

4. Where water spray is properly applied, extinguishment may be secured with a much __________________ quantity of ____________________ than when using a solid stream.

5. To obtain the best results from hose streams, application should be made as ___________ the fire as ____________________.

6. The person in command of the first fire apparatus arriving at a fire must ___________ ______ the conditions and ________________ on the initial step for ____________.

7. It is the fire officer's responsibility to open partitions where there is a possibility of __________, or where there is a probability of a lingering fire which may ____________________ and break out again.

Assignment Sheet No. 18 (Continued)

8. A common mistake made in attempting to extinguish attic fires is the failure to operate from the _______________ of the building.

9. Since mercantile and industrial occupancies are many and varied, each fire problem must be evaluated and handled in accordance with the _______________ of the _____________________ .

10. In fighting fires involving stored flammable liquids or liquified petroleum, hose streams first brought into action should be used for _______________ _______________ purposes.

11. The best practice to use when fighting fires involving electrical equipment is to shut off the ___________________ and use the extinguishing means most ___________ and suitable for the situation.

12. Water applied in __________ or _____________ form has been proved very effective in combating aircraft fires and facilitating rescue work.

➧ Directions - In the following statements, circle the T if the statement is true, or the F if it is false.

1. T F Complete exclusion of air is necessary to extinguish a fire.

2. T F A fireman need not be concerned with fire extinguishing practices because there are no set rules for fire extinguishment.

3. T F Immediate entry into a burning building for extinguishment is an important rule to be followed at every fire.

4. T F It is always better to attack a fire with streams that can be reduced in size than to attack with small streams that are not effective.

5. T F A spray or fog stream is effective in shielding firemen from the heat of a fire and permitting closer approach than when using solid stream.

6. T F A partition involved in fire should be opened immediately upon discovery.

7. T F In attacking attic fires, it is generally good practice to take the first line up the stairway, on the inside of the building, to the fire area.

8. T F Because basement fires are slow burning, they do not present a particular life hazard to firemen.

Assignment Sheet No. 18 (Continued)

9. T F The only fire department objective in mercantile and industrial fires is to have plenty of men and apparatus to put them out.

10. T F Hose streams first brought into action on flammable liquid tank fires should be directed into the tank and flames to cool the fire.

11. T F Extinguishment procedure on fires involving metals vary in accordance with the nature of the metal concerned.

12. T F Combustible gas indicators should be used to check for dangerous vapor accumulations in areas involved with a flammable liquid spillage.

13. T F A large solid stream will conduct less electrical current than a small solid stream.

14. T F L P Gas is heavier than air and therefore will settle in lower levels.

Fire Service Training

Assignment Sheet No. 19 Name ______________________________ Date ________ Grade ______

VENTILATION

OBJECTIVES:

1. To impress upon firemen the advantages derived from efficient ventilation practices.
2. To study the purpose of, and the correct methods to be used in ventilating buildings involved in fire.
3. To become aware of the hazards involved, when a building is not ventilated or when proper ventilating procedures are not used.

ASSIGNMENT:

Fire Service Training, pp. 286-292

QUESTIONS:

➡ Directions - Answer the following in brief, concise statements or words as indicated by the question.

1. Define "ventilation" as it applies to the fire service.

2. What are the three general purposes of ventilation?

3. **What is back-draft?**

4. **What condition exists inside a building before ventilation?**

5. **What is smoke?**

6. **What causes smoke?**

7. **Why is it necessary to have hose lines laid and charged before ventilating?**

8. **Where should a building be opened for ventilation?**

9. **Name four hazards involved in ventilation.**

10. **Why should ventilation be delayed when indirect application of fog is used?**

Assignment Sheet No. 19 (Continued)

Directions - Complete the following statements by adding the proper word or words in the blank spaces.

1. Proper ventilation requires firemen to have a first hand knowledge of ____________________ and the ____________________ of exposed buildings.

2. The problem of ventilation ____________ greatly with individual buildings.

3. ____________________ are harder to ventilate than any other part of the building.

4. Firemen should not go upon any roof to ventilate if there is any doubt about its ___________ ____________________ .

Directions - In the following statements, circle the T if the statement is true, or the F if it is false.

1. T F Windows should always be broken to ventilate.

2. T F The opening of dormer windows or louvers may eliminate the necessity of cutting a hole in the roof.

3. T F When chopping a hole in a roof, make it small so it is easy to repair.

4. T F Ventilation reduces smoke damage.

5. T F No operation is more important than ventilation.

6. T F Only the chief of the fire department should be concerned about ventilation.

7. T F A fireman should lie on his stomach if a back-draft is suspected.

8. T F The direction of the wind has no bearing on ventilation.

9. T F To save time ventilation should be done while lines are being laid.

10. T F Ventilation should not be performed unless so ordered by the officer in charge.

11. T F Knowledge of building construction is of little value in ventilation practices.

Fire Service Training

Assignment Sheet No. 20 Name ______________________________ Date ________ Grade ______

SALVAGE

OBJECTIVES:

1. To learn the meaning and importance of salvage.

2. To become acquainted with the tools and equipment used in salvage and their proper use and care.

3. To learn the proper methods to follow in order to do efficient salvage work.

ASSIGNMENT:

Fire Service Training, pp. 293-307

QUESTIONS:

➧ Directions - Answer the following in brief, concise statements or words as indicated by the question.

1. Define salvage.

2. What are the four common folds for salvage covers used by the majority of the fire departments?

3. List four ways to remove large quantities of water from the upper floors of buildings.

Assignment Sheet No. 20 (Continued)

4. What is the size of salvage cover that is generally preferred?

5. When spreading covers, what rooms in a home usually need less attention?

6. What care should be taken when water is directed into the elevator shaft?

Directions - Complete the following statements by adding the proper word or words in the blank spaces.

1. Efficient workmanship in forcible entry and ventilation is as much a part of ______________ technique as the spreading of covers.

2. __________ ______________ can be made from old or defective salvage covers.

3. When cleaning up after fires, covers should be removed and merchandise and furniture carefully ____________ and ____________ to prevent water ______________.

4. When covers have not been used for a period of _______ ____________, they should be ______________.

5. One of the more important jobs in connection with __________________ operations is that of making thorough ______________________ of the property before the fire occurs.

6. Covering holes in roofs after a fire is a _______________ operation of great ______________________.

Directions - In the following statements, circle the T if the statement is true, or the F if it is false.

1. T F Salvage covers should be able to hold water when bagged.

2. T F Pictures and lamps should be placed under the bed before throwing the salvage cover.

Assignment Sheet No. 20 (Continued)

3. T F Pike poles can be used to hold covers in place.

4. T F A mattress fire can be handled easily by throwing it out the window after the fire is extinguished.

5. T F All plumbing fixtures should be drained when heat cannot be restored in a building after a fire during freezing weather.

6. T F Practice in using salvage covers is not a necessity.

Fire Service Training

Assignment Sheet No. 21 Name ________________________________ Date ______ Grade ______

OVERHAUL AND PICK-UP

OBJECTIVES:

1. **To learn the importance of overhauling and the proper methods to follow.**

2. **To point out the need for and the proper care of fire equipment after the fire is extinguished.**

ASSIGNMENT:

Fire Service Training, pp. 308-310

QUESTIONS:

➧ **Directions - Answer the following in brief, concise statements or words as indicated by the question.**

1. **What is the first requisite before proceeding to overhaul?**

2. **Define the term overhaul.**

3. **What are the two objectives of overhauling?**

Directions - Complete the following statements by adding the proper word or words in the blank spaces.

1. **Pick-up is helpful in keeping all ____________________ in ____________ ______________ condition.**

2. **______________ ___________ should always be used in overhauling in order to eliminate additional damage.**

3. **Be diligent in looking for fire in ________________ spaces.**

4. **If tools and equipment are marked, it will save ____________ and ________________ in the pick-up operation.**

5. **Scorched or partially burned articles should be ______________ from the debris and put ______________.**

Directions - In the following statements, circle the T if the statement is true, or the F if it is false.

1. **T F Salvage work is closely related to overhaul.**

2. **T F Hose is easier to pick up in freezing weather.**

3. **T F It is never advisable to have the electric company cut the service lines to a building.**

4. **T F Never throw clothing or other valuable articles out of windows.**

5. **T F Hands and tools should always be washed after overhaul of a drug store fire.**

6. **T F It is permissable to drive over hose lines during pick-up in order to get the hose back on the truck faster.**

7. **T F If equipment has been used in fighting a fire where radiation hazards are present, it should be taken to the station for decontamination.**

Fire Service Training

Assignment Sheet No. 22 Name__________________________________ Date________ Grade______

CARE OF APPARATUS, DRIVING SUGGESTIONS, THE RUN

OBJECTIVES:

1. To learn the essential items to be considered in the general care and maintenance of fire apparatus.

2. To acquaint the fireman with driving suggestions which should be of value in becoming an efficient and safe driver.

3. To acquaint the fireman with the proper use of warning devices incorporated on the vehicle and the situations that may arise when making the run.

ASSIGNMENT:

Fire Service Training, pp. 311-315

QUESTIONS:

➧ Directions - Answer the following in brief, concise statements or words as indicated by the question.

1. Why should the hood of the apparatus be allowed to cool before being washed?

2. Why should mud be washed from the apparatus as soon as possible?

3. What parts of the apparatus should be checked by a competent person at least once a month?

4. Why should the siren be turned on and off to utilize the range of sound from the lowest to the highest pitch when making a run?

Directions - Complete the following statements by adding the proper word or words in the blank spaces.

1. When the finish is new, the apparatus should be washed frequently with __________ __________ to harden the finish and keep it from spotting.

2. A routine inspection of the apparatus should be made __________ __________ __________.

3. The distance that a vehicle will travel while a driver transfers his foot from the accelerator to the brake pedal is called __________ __________.

4. Stopping distance is the sum of the __________ distance, plus the __________ distance.

5. At a speed of 40 m.p.h. a vehicle will travel a distance of __________ feet before the average driver can react and apply the brakes.

Directions - In the following statements, circle the T if the statement is true, or the F if it is false.

1. T F When the apparatus is covered with a thick coat of dust, it should be dusted rather than washed.

2. T F If the gear shift cannot be moved normally into proper position, use force and jam it into position.

3. T F The first necessity when answering an alarm is speed.

Assignment Sheet No. 22 (Continued)

4. T F The driver of any emergency vehicle can depend on the flashing red light or the sound from the siren to guarantee safe passage or "right of way" through an intersection or cross road.

5. T F Prevailing weather conditions and the congestion of traffic are very important when making the run.

6. T F A safe distance of five hundred feet should be maintained between emergency vehicles, should two or more units be responding to the same alarm.

Fire Service Training

Assignment Sheet No. 23 **Name** ______________________ **Date** ______ **Grade** ______

POST-MORTEM CONFERENCE

OBJECTIVES:

1. **To learn the importance of post-mortem.**

2. **To learn the proper procedure to follow in conducting the post-mortem.**

ASSIGNMENT:

Fire Service Training, pp. 316-317

QUESTIONS:

➡ **Directions - Answer the following in brief, concise statements or words as indicated by the question.**

1. **What is meant by post-mortem in the fire service?**

2. **Who should take part in the post-mortem?**

3. **In general, when should a post-mortem be held and explain why?**

4. **What is the basic purpose of a post-mortem?**

Assignment Sheet No. 23 (Continued)

Directions - Complete the following statements by adding the proper word or words in the blank spaces.

1. The effort made toward providing for worthwhile post-mortems will be ____________________ by the ______________ .

2. Recommendations resulting from the post-mortem should be carried out through ______________ ______________.

3. In paid departments post-mortems may be held at the time of the ___________________ of _________________ .

4. A combination of ________________________ and ___________ ______________ is essential to efficient fire fighting.

5. A definite ______________ for scheduling post-mortems cannot be established.

Directions - In the following statements, circle the T if the statement is true, or the F if it is false.

1. T F The discussion of possible arson should not be part of the post-mortem.

2. T F Post-mortem meetings are for officers only.

3. T F Volunteers' weekly meetings is an excellent time to conduct the post-mortem.

4. T F Personnel not on duty when the run took place should not be briefed on the situation.

5. T F During a post-mortem only the opinions of the officers should be evaluated.

Fire Service Training

Assignment Sheet No. 24 Name ______________________ Date ______ Grade ______

FIRE DETECTION AND ARSON INVESTIGATION

OBJECTIVES:

1. To emphasize the importance of fire investigations in the overall operation of a fire department.

2. To evaluate the necessity and value of comprehensive fire report forms as sources of information in making investigations.

3. To become familiar with the various factors involved in determining the cause of a fire.

4. To be made aware of the many problems, responsibilities, and procedures involved in arson detection.

ASSIGNMENT:

Fire Service Training, pp. 318-330

QUESTIONS:

➧ Directions - Answer the following in brief, concise statements or words as indicated by the question.

1. What factors must the property owner or occupant be fully aware of which will have a powerful influence in an effective fire prevention program?

2. Why is a fire report form of value to the person making the investigations?

3. Name six factors which will facilitate efforts to determine the cause of a fire.

4. What important conclusion of a fire investigation indicates the possibility of arson?

5. What are the three categories concerned in the development of an arson case?

Directions - Complete the following statements by adding the proper word or words in the blank spaces.

1. The ____________________ of fires is also the primary means for detecting incendiarism and securing evidence for the conviction of ____________________.

2. Fire department members can become proficient in assisting in determining fire ____________ by intelligent ____________________ of the situation upon ______________ at the scene and the series of events which lead to the final extinguishment of the fire.

3. The success of a fire investigation depends mainly on the ____________ and ____________ of information provided in the fire report.

4. Every fire should be carefully examined to establish its ______________.

5. When the facts and information indicate the fire is defininitely an arson fire, it becomes a ______________ punishable by ________________ __________ .

6. Disturbing the scene by careless use of hose streams, salvage work, or by the inability to recognize the situation may result in total or partial __________________________ of ____________________ that may void its usefulness.

7. All evidence discovered during an arson investigation should be carefully ______________________ and properly ________________ for identification.

8. Memory should never be trusted to make accurate statements of ______________ , ______________________ or ________________________ in a case under investigation.

9. When presenting an arson case to the court, the ______________________ , decorum and ______________________ of the witness are important.

Directions - In the following statements, circle the T if the statement is true, or the F if it is false.

1. T F The investigation of fires is the basis for efficient fire prevention and fire protection operations in any community.

2. T F The fire department's first duty upon arrival at the fire scene is to check for incendiarism.

3. T F Fire reports are not necessary when only small fires are involved.

4. T F More than one fire in a building is always a sure sign of arson.

5. T F Fires are assumed to be accidental until proved otherwise.

6. T F In most instances, proof of arson depends greatly on circumstantial and indirect evidence.

7. T F Mechanical, electrical, or chemical timing devices have often been used by arsonists to start fires.

8. T F Any clean and uncontaminated bottles, jars, and cans available on the premises during a fire investigation can be used for collecting the evidence.

Assignment Sheet No. 24 (Continued)

9. T F A notebook can be used in court to refresh memories or restate observations or facts.

10. T F Circumstantial evidence is not good evidence to use in an arson case.

Fire Service Training

Assignment Sheet No. 25 Name ______________________________ Date ______ Grade ______

INSPECTIONS

OBJECTIVES:

1. To acquaint the fireman with the value of fire inspection work and its effects on the various duties, obligations, operations, and responsibilities of a modern fire department to its members and to its community.

2. To familiarize the fireman with the legal aspects concerned with fire inspections.

3. To learn the various factors and features involved in fire inspection programs.

4. To present the fireman with ideas and suggestions which aid fire inspection techniques.

ASSIGNMENT:

Fire Service Training, pp. 331-378

QUESTIONS:

Directions - Answer the following in brief, concise statements or words as indicated by the question.

1. List the eight factors in fire fighting operations which are supplemented by fire inspection programs.

2. **Who has the legal right to enter buildings and vehicles for the purpose of examination under Section 3737.14 of the State of Ohio Code?**

3. **Which item has the largest average percent of loss in the table listing the common causes of fire?**

4. **Name three points which must be evaluated when considering a potential structural fire spread in making a fire inspection.**

5. **When dealing with the public, what are the main factors to keep in mind to secure their cooperation?**

6. **Why is a follow-up of a fire inspection necessary?**

7. Name six general factors which should be considered relative to frequency of inspections.

Directions - Complete the following statements by adding the proper word or words in the blank spaces.

1. Fire inspections are the backbone of effective fire prevention work, and are a powerful factor in the reduction of loss of ____________ and ____________________.

2. Any city or village that desires to assume the responsibility for efficient fire protection and prevention may pass ________________________, adopt ____________ and establish ______________ for inspections.

3. One of the most effective methods of controlling various special hazards is by a system of ______________ and __________________.

4. To obtain good results, such items as effective __________________, qualified and trained _________________, and a continuous ______________ __________ must be incorporated in a fire inspection program.

5. A camera may be used to take pictures of situations for further discussion or study and for gathering ______________ for ____________.

6. Although it is not legally necessary, ____________________ should always be __________________ before making an inspection.

Assignment Sheet No. 25 (Continued)

7. For the inspection to be effective, a ____________________ system is necessary.

8. Inspection of all school buildings by ____________________ fire department inspectors is necessary to safeguard the ____________ of school children.

9. Fire inspections that are thorough and regular will be of great assistance in ____________________ the public to common ________ ____________ and will aid in safeguarding _________ and ____________________ by decreasing these hazards.

➧ Directions - In the following statements, circle the T if the statement is true, or the F if it is false.

1. T F Putting out fires should be the only concern of a well-organized fire department.

2. T F Conditions under which people live, work and assemble, in some instances, are of a hazardous nature to human safety.

3. T F Sufficient manpower and equipment is all that is necessary to make fire fighting easy.

4. T F Inspections will enable firemen to avoid life hazards in buildings in time of fire.

5. T F Every fire is different, therefore they should be forgotten after they have been extinguished.

6. T F Authority for making inspections is obtained from local ordinances or state laws.

7. T F It is important that all fire inspections start with the roof.

8. T F Only the most hazardous and unfavorable conditions should be called to the attention of the owner or occupant by the inspector.

9. T F Only as a last resort should action be taken under local ordinances or state laws to enforce violations.

Fire Service Training

Assignment Sheet No. 26 Name ______________________________ Date _______ Grade _______

RADIATION HAZARDS

OBJECTIVES:

1. To stress to the fireman that radioactive materials must be respected and where they may be located.

2. To teach the fireman that this hazard must be accepted and dealt with properly.

3. To acquaint the fireman with the problems of radiation hazards in general and to prepare him for more specialized training.

ASSIGNMENT:

Fire Service Training, pp. 379-404

QUESTIONS:

➧ Directions - Answer the following in brief, concise statements or words as indicated by the question.

1. Name six possible locations where radioactive materials may be found.

2. What are the two types of radiation hazards?

3. What are the means by which a fireman can protect himself from each of the two types of radiation hazards?

4. What are the three types of radiation?

5. Name the four ways by which radioactive materials may enter the body.

Directions - Complete the following statements by adding the proper word or words in the blank spaces.

1. The hazards from radioactive ______________________ may be from alpha, beta, or gamma radiation.

2. Radioactive materials give off ____________, and this use makes them extremely beneficial to ______________________.

3. Radiation __________________ causes nausea, vomiting, diarrhea, malaise, hemorrhage, and lowers the body's ________________ against disease and infection.

4. Radiation injury can cause injuries such as ___________, loss of __________, and skin lesions.

5. Radioactive ____________________ may cause diseases such as anemia and ________________.

Directions - In the following statements, circle the T if the statement is true, or the F if it is false.

1. T F The recommended emergency dose of radiation is 25 rems.

2. T F Water spray or fog will protect the firemen from radiation.

3. T F Exposure of personnel to radiation should be limited in all cases to the minimum time necessary to accomplish the task.

4. T F A fireman will receive only 1/5 the radiation at 5 feet that he will at one foot.

5. T F Lead is the best shield because it is not compact.

Notes